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SHORT PEPTIDES FOR TREATMENT OF NEUROLOGICAL
DEGENERATIVE DISEASES

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TECHNICAL FIELD

This invention is directed to synthetically produced short peptide sequences which inhibit HIV-1 gp120 induced neuronal cell death, for use in preventing neurological deterioration in patients suffering from AIDS as well as other neurological degenerative diseases.

BACKGROUND

Among the symptoms and conditions associated with HIV infection (AIDS) are specific neurological conditions which can be termed "neuro-AIDS".

Neuro-AIDS, whose incidence and severity appears to be increasing, can manifest itself in many forms including encephalopathies, neuropathies, memory loss, dementia, depression, psychosis and opportunistic infections. One explanation for AIDS associated neuropathologies, which can include infiltration of infected immune cells, white matter aberrations, reduced dendritic and axonal arborization, and neuronal loss is that dissociated HIV envelop protein, gp120, which has been shown to be secreted abundantly by infected macrophages and is present in plasma and CSF, contributes to pathogenesis via receptor-mediated interactions with various shared cell surface receptors on brain and immune cells.

There is growing evidence that neurotoxicity and infectivity associated with HIV have distinctive attributes suggesting divergence of mechanism. In particular, HIV infection does not occur in rodents and does not require signaling, while the